California Monthly Climate Summary
January 2008

Weather Highlights

January was a cold, wet, and sometimes wild month for California. According to the Western Region Climate Center's California Climate Tracker, the monthly average temperature was 40.5°F which is 2.2°F lower than the long-term average of 42.7°F. With a statewide average of 6.02 inches, precipitation for January was 145% of the long term average. Out of the 113 years of record in the California Climate Tracker, January 2007 ranks as the 24th wettest.

The New Year started with high pressure aloft over the southwest United States resulting in cool, dry conditions over northern California and offshore flow conditions over southern California. Conditions changed over the course of the first week of January. The end of the first week saw a powerful storm plow through California with plenty of wind, rain and snow. Wind speeds topped 100 mph in several places in the mountains and exceeded 70 mph in some locations of the Central Valley. A sampling of peak wind gusts throughout the state is provided in a table at the end of the summary. Downed trees and power outages occurred throughout the Central Valley. Snow levels were low limiting the extent and locations of flooding. Statewide snow water content went from 57% of the long-term average to 108% with this storm. Seasonal precipitation for Sacramento went from 78% of normal to 106% while Los Angeles went from 93% of normal to 116%. The second week of January saw a continuing string of frontal systems pass over California bringing more rain and snow. By the end of the week a high pressure cell in the Great Basin brought Santa Ana winds to southern California and clearing skies in the north. This pattern held through the third week of the month breaking down at the end of the week. The last part of January included another round of storms bringing snow down to 1,000 feet in the Central Valley, and providing enough snow to close Interstate 5 across the Tehachapi Mountains near Fort Tejon. The wild weather also led to a tornado which was reported in Ventura County on the 24th. Another interesting precipitation statistic was noticed by the Oxnard Weather Forecast Office. For the week of the 25th of January, 4 stations exceeded the total amount of rainfall that fell from July 2006 to June of 2007. These stations are shown in the following table.

Station	Total Rain Monday 1/21/08 to Friday 1/25/08 (inches)	Total Rain 2006-2007 Season (inches)
Downtown Los Angeles	3.32	3.21
Long Beach Airport	2.76	2.10
Burbank Airport	2.95	2.83
Camarillo	3.57	3.43

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 10 temperature records tied or broken and 33 precipitation records tied and broken for the month. Of the 10 temperature records, 9 were for new low maximum temperatures. Santa Cruz tied a 1949 record on the 24th with a high of only 46°F. King City broke a 1937 record on the 24th when the high temperature only reached 44°F, 4 degrees below the old record. The lone new high maximum temperature record was for Monterey on January 1 when the high reached 70°F tying the 1957 mark. Precipitation records were plentiful in January. On January 4th, Bishop set a new 1-day record of precipitation with 4 inches. The previous 1-day record set on 2/24/1969 was 3.5 inches. On January 5th, Reno recorded their 3rd largest 1-day total ever with 1.91 inches of precipitation. This broke the 1939 record of 0.69 inches for January 5th. On January 24th, Santa Barbara Airport recorded 4.16 inches breaking the 1943 mark of 2.45 inches for the day. On the 26th, San Francisco broke an 1890 record of 1.83 inches when 2.54 inches of rain fell. Even Palm Springs set a new daily precipitation record on the 27th when 1.25 inches of rain fell. The old record for that day was 1.18 inches set back in 1930.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 214 stations recorded a minimum temperature below freezing. Statewide extremes from the CDEC network of temperature gages are shown below. Also shown are the monthly average extremes from the CIMIS network. A table of regional average minimum, mean, and maximum temperatures from the CDEC and CIMIS networks is also shown.

Precipitation in January was cold and abundant. What a difference a year makes. The largest amount of precipitation recorded in the CDEC precipitation gages for January 2008 was a tie between Juncal Dam on the South Coast and Lake Arrowhead in the South Lahontan Region with a total of 24.04 inches. Normally both stations record less than 4 inches of precipitation in January. In addition, 18 stations out of the 181 stations in the CDEC network recorded monthly totals above 15". At the other end of the spectrum, Imperial Valley in the Colorado River Desert region recorded no precipitation for January. For the CIMIS network, Oakville in Napa County topped the precipitation charts with 16.75 inches for the month. Fourteen other sites topped ten inches as well. The 8-Station Index for northern California precipitation recorded 12.4 inches in December with twenty-three days showing precipitation. On average 9.0 inches of precipitation is recorded for the 8-Station index. This is the 24th wettest December in the 8-Station index period of record and is only 45% of the wettest January total of 27.14 inches which fell in 1995. January 2008's 12.4 inches is also more than 8 times the value of January 2007's total of 1.5 inches. Statewide, the average precipitation for January was 163% of the long-term average based on the California Data Exchange Center (CDEC) gages. Precipitation percentages by region from the CDEC gages are shown in a table at the end of this document.

The UC Merced/UC Santa Barbara snow covered area reports are back again for 2008. Conditions at the beginning of February 2008 are much different than 2007. A much larger percentage of the Sierra Nevada watersheds are covered by snow in 2008. Lower elevation (5,000 to 6,000 ft) snow coverage for the Feather, American, and Merced watersheds exceeded 65% for 2008 compared to less than 10% for 2007. The data and analysis from these reports are made available by UC Merced and UC Santa Barbara under NASA Grant NNG04GC52 "REASoN CAN Multi resolution snow products for the hydrologic sciences. Please see the state climatologist web site to for the full report.

For January, the Drought Monitor showed significant improvement across California due to the abundant precipitation and increase in snow pack conditions. The maps for California for January 1, 2008 and January 29, 2008 are shown below. The Drought Monitor maps can be found on the National Drought Mitigation Center's (NDMC) website http://drought.unl.edu/dm/. These maps are largely a reflection of precipitation and soil moisture deficit estimates. The northwest part of the state is not considered in any drought condition. The rest of California is depicted in either D0 (abnormally dry) or D1 (moderate drought) conditions or D2 (severe drought). Maps are updated weekly.

The U.S. Seasonal Drought Outlook for February through April from NOAA depicts California with persisting drought conditions in the southern part of the state. Updates are provided twice per month. Maps and information can be found at http://cdec.water.ca.gov/water_supply.html

Outlooks for the water year 2008 water supply index categories are dry for the Sacramento Basin and critical for the San Joaquin Basin. Water supply information for California can be found at http://cdec.water.ca.gov/water_supply.html. A Historical listing of water year categories for both basins can be found at http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is being classified as a strong La Niña pattern. Equatorial sea surface temperature anomalies for the tropical Pacific for January fell below 2° C in some regions. The November through January 3-month running mean of the Ocean Niño Index was the 5th consecutive 3-month running mean value to be below the threshold value of -0.5°C which is the minimum period needed for the event to be classified as a La Niña event. Both statistical and dynamical models forecast La Niña conditions lasting into spring of 2008. More information to the topic can be found at the Climate Prediction Center's web site: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ Updates are posted weekly. The latest three month outlook (February through April) from NOAA indicates an equal chance of above, below or near normal temperatures for most of the state with above normal temperatures expected for southern California except for the south coast which is forecast to have below normal temperatures. For precipitation, below average conditions are forecast for locations

south of the San Francisco Bay and an equal chance of above, below or near normal conditions north of the Bay Area. The far northwestern part of the state is forecast to have above normal precipitation. Outlook plots and discussions can be fount at http://www.wrcc.dri.edu/longrang/. General weather information of interest can be found at http://www.noaawatch.gov/. For anomaly information please see http://www.wrcc.dri.edu/anom/cal_anom.html.

Agricultural Data

January's storms led to some clean up efforts in orchards and vineyards in the state. Wet weather also delayed some ground preparations for new crops. Winter forage crops were doing well with the rains. Early vegetable crops were growing well too. Citrus growers were concerned with the cold temperatures, but no widespread damage was reported. By the end of the month nut trees were starting to bud. For further crop information see http://www.nass.usda.gov/index.asp.

Other Climate Summaries

California Climate Tracker (new product of Western Region Climate Center)
Golden Gate Weather Service Climate Summary
NOAA Monthly State of the Climate Report

Statewide Extremes (CDEC)

High Temperature – 84°F (Camp Pendleton Las Flores, South Coast)
Low Temperature – -22°F (Casa Vieja Meadows, Tulare)
High Precipitation – 24.04 inches (Juncal Dam, South Coast and Lake Arrowhead, South Lahontan)
Low Precipitation – 0 inches (Imperial Valley Colorado River Desert)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 67.1^0F (Steeley, Imperial County)
Low Average Minimum Temperature – 14.5^0F (Alturas, Modoc County)
High Precipitation – 16.75 inches (Oakville, Napa County)
Low Precipitation – 0 inches (6 stations)

Statewide Precipitation Statistics

Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Jan	Oct-Jan	Stations	Jan	Oct-Jan	Jan	Oct-Jan
North Coast	0.27	5	5	5	19	15	15	144.1%	109%
SF Bay	0.03	2	2	2	6	6	6	189.8%	117%
Central Coast	0.06	3	3	3	11	7	7	256.7%	139%
South Coast	0.06	3	3	3	15	12	7	194.6%	101%
Sacramento River	0.26	5	5	5	43	38	36	142.3%	97%
San Joaquin River	0.12	6	6	6	25	24	23	163.4%	98%
Tulare Lake	0.07	5	5	5	28	27	27	141.9%	96%
North Lahontan	0.04	3	3	3	14	9	9	151.9%	92%
South Lahontan	0.06	3	3	3	15	9	8	250.9%	133%
Colorado River	0.03	1	1	1	6	3	3	132.2%	152%
Statewide Weighted Average	1	36	36	36	182	150	141	163.3 %	107 %

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	29	24.8	37.5	57.8
SF Bay	16	35.0	44.4	56.4
Central Coast	33	35.8	47.2	63.8
South Coast	68	34.3	48.7	71.0
Sacramento	88	22.3	36.4	57.5
San Joaquin	77	22.0	37.4	57.1
Tulare Lake	16	7.9	30.1	55.9
North Lahontan	31	6.1	25.4	48.2
South Lahontan	22	15.2	32.5	54.1
Colorado River Desert	22	37.3	51.8	67.6
Statewide Weighted Average	402	23.2	37.8	58.3

Peak Wind Gusts from January 3-5, 2008 Storm

Station	River Basin	Max Wind Gust (MPH)
Pilot Hill	American	49
Chico	Butte Cr	58
High Glade	Cache Cr	81
Laurel Mtn	China Lake	54
Mt Diablo	East Bay	117
Oakland North	East Bay	71
Alder Pt	Eel River	50
Lower Lassen Peak	Feather	110
Metcalf Gap	Fresno R	37
Kernville	Kern	31
Walker Pass	Kern R	43
Fence Meadow	Kings R	34
Klamath NWR	Klamath R	48
Ostrander Lake	Merced	48
Lake Palmdale	Mojave Desert	67
Rush Creek PH	Owens R	81
Ash Valley	Pit River	54
Mt Shasta	Sacramento	100
Lassen Lodge	Sacramento	51
Corning Airport	Sacramento R	61
Santa Rita	San Benito	65
Devils Postpile	San Joaquin	64
Weed Airport	Shast R	63
Mt Elizabeth	Tuolumne	81
Tuolumne Meadows	Tuolumne R	49
Tioga Pass Entry Station	Tuolumne R	37
Robinson Cow Camp	Yuba	75
White Cloud	Yuba	100
Whittier Hills Wilderness Preserve	San Gabriel	49
Whitaker	Santa Clara	55
Mount Warren	Inyo County	117

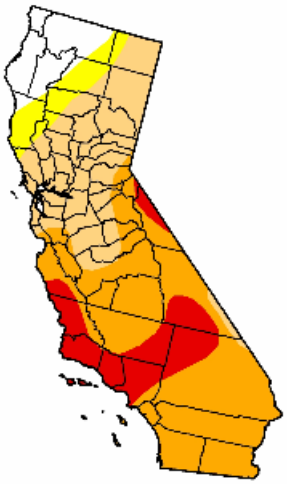
U.S. Drought Monitor

January 1, 2008
Valid 7 a.m. EST

California

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.9	91.1	84.7	58.0	14.6	0.0
Last Week (12/25/2007 map)	8.9	91.1	84.7	58.0	14.6	0.0
3 Months Ago (10/09/2007 map)	0.1	99.9	92.6	64.6	33.8	0.0
Start of Calendar Year (01/01/2008 map)	8.9	91.1	84.7	58.0	14.6	0.0
Start of Water Year (10/02/2007 map)	0.0	100.0	92.6	64.6	33.8	0.0
One Year Ago (01/02/2007 map)	40.7	59.3	26.8	0.0	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dm

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Author: Richard Heim, NOAA/NESDIS/NCDC

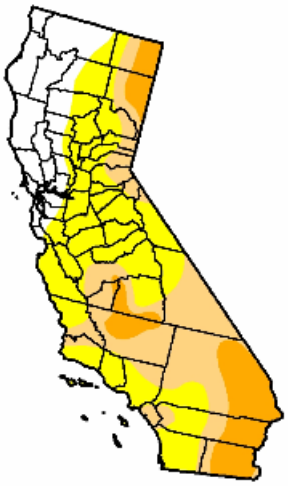
U.S. Drought Monitor

January 29, 2008
Valid 7 a.m. EST

California

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.2	81.8	41.6	14.8	0.0	0.0
Last Week (01/22/2008 map)	11.4	88.6	79.8	32.8	0.0	0.0
3 Months Ago (11/06/2007 map)	8.9	91.1	84.8	58.3	33.7	0.0
Start of Calendar Year (01/01/2008 map)	8.9	91.1	84.7	58.0	14.6	0.0
Start of Water Year (10/02/2007 map)	0.0	100.0	92.6	64.6	33.8	0.0
One Year Ago (01/30/2007 map)	9.8	90.2	61.3	22.9	0.0	0.0



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http://drought.unl.edu/dm

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